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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HUYNH, THU V	

ART UNIT	PAPER NUMBER
2178	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,464	QAMAR, JAFFER	
	Examiner	Art Unit	
	Thu V Huynh	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: application filed on 05/29/2001 which has provisional filed on 05/23/2000..

2. Claims 1-26 are pending in the case. Claims 1, 4-6, 10, 14, 18 and 19 are independent claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding independent claim 26. Claim 26 recites the limitation "means for the user to supply a result of a mathematical expression whereby the processor compares it to **the computed result** and responds with a 'Correct'/ 'Incorrect' response instead of displaying the computed result". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. **Claims 1-4 and 6-13 rejected under 35 U.S.C. 102(a) as being anticipated by**

Microsoft Excel 2000 printout (hereinafter Excel), copyright 1999, pages 1-54.

Regarding independent claim 1, Excel teaches the steps of:

- entering expressions into a file (Excel, pages 1-4, user enter expressions through keyboard);
- marking a root-expression and copying it to a clipboard (Excel, pages 5 and 10, user selects one of expression to copy. The expression must be copy to a clipboard was well known at the time of the invention was made);
- pasting the clipboard content to other locations via paste-link (Excel, pages 5-13, using "paste link" from "paste special" to paste the clipboard content to other locations);
- linking the pasted instance to the root-expression (Excel, pages 14-15, linking the pasted cell to the root expression); and
- recording the location of the root-expression and the pasted instance into an ordered link-sequence (Excel, pages 14-15, location of the root expression and pasted instance must be recorded in to an ordered link-sequence in order to display link sequence of the root expression).

Regarding claim 2, which is dependent on claim 1, Excel teaches the user selecting an expression and viewing the link-sequence associated with the expression (Excel, pages 14-15, selecting an expression at location label "A1"and using "trace dependents" in "auditing" bar to viewing the link-sequence associated with the expression).

Regarding claim 3, which is dependent on claim 2, Excel teaches the user selecting a particular linked instance, from the link-sequence, and locating it for examination (Excel, pages 16-17, selecting particular linked instance from the link-sequence, and locating it for modify the expression to "=800/2" in the particular linked instance).

Regarding independent claim 4, Excel teaches the steps of:

- entering expression into a file (Excel, pages 1-4, user enter expressions through keyboard);
- marking a root-expression and copying it to a clipboard (Excel, pages 5 and 10, user selects one of expression to copy. The expression must be copy to a clipboard was well known at the time of the invention was made);
- pasting the clipboard content to other locations via on-way-link (Excel, pages 5-13, using "paste link" from "paste special" to paste the clipboard content to other locations, wherein the paste link allows the user to trace the cells that are referenced in a particular formula/expression or trace all the expression that reference a particular cell by one-way arrows);
- linking the pasted instance to the root-expression (Excel, pages 14-15 , linking the pasted cell to the root expression);
- recording the location of the root-expression and the pasted instance into an ordered link-sequence (Excel, pages 14-15, location of the root expression and pasted instance must be recorded in to an ordered link-sequence in order to display link sequence of the root expression); and

- when revising a particular instance of the expression, only the subsequent linked instances are automatically updated and the corresponding results, where mathematical expression are used, are automatically re-computed, saved and displayed (Excel, pages 16-18, revising particular instance at location D5 to "=800/2", only subsequent linked instances are automatically re-computed, saved and displayed corresponding to the updated).

Regarding independent claim 6, Excel teaches the steps of:

- entering expressions into a file (Excel, pages 1-4, user enter expressions through keyboard);
- labeling an expression (Excel, pages 1-2, labeling an expression under identified column and row, such as expression "=100=200+300+400+500+600+700+800-900" is labeled in name "A1");
- referring to the labeled expression in other expression via the label (Excel, pages 24-26, referring to the labeled expression in IF expression function in cell A12);
- linking the labeled expression to the expression that refer to it (Excel, page 26 , linking the labeled expression to the IF functions);
- recording the location of the labeled expression and of the referring expression into an ordered link-sequence (Excel, pages 27-28, location of the labeled expression and the referring expression must be recorded in order to display link sequence of the labeled expression).

Regarding claim 7, which is dependent on claim 6, Excel teaches the user selecting an expression and viewing the link-sequence associated with it (Excel, pages 27-28, selecting an expression and using "trace dependents" in "auditing" bar to viewing the link-sequence associated with the expression).

Regarding claim 8, which is dependent on claim 7, Excel teaches the user selecting a particular linked instance, from the link-sequence, and locating it for examination (Excel, pages 29-30, selecting particular linked instance from the link-sequence, and locating it for modifying the expression in the particular linked instance).

Regarding claim 9, which is dependent on claim 6, Excel teaches revising an expression and automatically updating all linked expression and their corresponding results (Excel, pages 20-30).

Regarding independent claim 10, Excel teaches the steps of:

- entering expressions into a file (Excel, pages 1-4, user enter expressions through keyboard);
- assigning a variable-name to an expression (Excel, pages 31-33, assigning name "TESTING" to cell "E20" using "insert name");
- referring to the expression in other expressions via the variable-name (Excel, pages 34-35, referring to the variable-name in other expressions);

- linking the variable-name expression to the expression that refers to it (Excel, pages 36-37, linking the variable-name expression to the other expressions);
- recording the location of the labeled expression and of the referring expression into an ordered link-sequence (Excel, pages 36-37, location of the labeled expression and the referring expression must be recorded in order to display link sequence of the labeled expression).

Regarding claim 11, which is dependent on claim 10, Excel teaches the user selecting an expression and viewing the link-sequence associated with it (Excel, pages 36-37, selecting an expression and using "trace dependents" in "auditing" bar to viewing the link-sequence associated with the expression).

Regarding claim 12, which is dependent on claim 11, Excel teaches the user selecting a particular linked instance, from the link-sequence, and locating it for examination (Excel, page 38, selecting particular linked instance from the link-sequence, and locating it for modifying the expression in the particular linked instance).

Regarding claim 13, which is dependent on claim 10, Excel teaches revising an expression and automatically updating all linked expression and their corresponding results, where mathematical expression are used, and automatically re-computing, saving and displaying, all linked instances (Excel, pages 38-39).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> (b) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 5 and 14-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Microsoft Excel 2000 printout (hereinafter Excel), copyright 1999, pages 1-48.

Regarding independent claim 5, Excel teaches the steps of:

- entering expressions into a file (Excel, pages 1-4, user enter expressions through keyboard);
- marking a root-expression and copying it to a clipboard (Excel, pages 5 and 10, user selects one of expression to copy. The expression must be copy to a clipboard was well known at the time of the invention was made);
- pasting the clipboard content to other locations via one-way-link (Excel, pages 5-13, using "paste link" from "paste special" to paste the clipboard content to other locations, wherein the paste link allows the user to trace the cells that are referenced in a particular formula/expression or trace all the expression that reference a particular cell by one-way arrows);

- linking the pasted instance to the root-expression (Excel, pages 14-15, linking the pasted cell to the root expression);
- recording the location of the root-expression and the pasted instance into a an ordered link-sequence (Excel, pages 14-15, location of the root expression and pasted instance must be recorded in to an ordered link-sequence in order to display link sequence of the root expression); and
- when revising a particular instance of the expression in the linking, every linked instance is automatically updated and the corresponding results, where mathematical expression are used, are automatically re-computed, saved and displayed (Excel, pages 16-18, updating a particular instance of the expression, every linked instance is automatically re-computed, saved and displayed corresponding to the updated).

Excel does not explicitly disclose pasting the clipboard content to other locations via two-way-link and recording the locations of the root-expression and the pasted instance into a link-ring. However, Excel teaches indicating two-way-link by using a pair of one-way-links resulting the content of two-way-linked cells are updated when one of the two-way-linked cell updates (Excel, pages 5-9 and 19-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified Excel to include two-way-link to allow the user indicates the relationship between cells, since this would have facilitated the user to manipulate content of cells, such as editing and updating content cells.

Regarding independent claim 14, Excel teaches the steps of:

- means for entering the expressions into a file accessible to the device (Excel, pages 1-4, user enter expressions into a file named "Book1");
- means for storing the expressions (Excel, pages 1-13, storing the expressions in different locations);
- means for displaying the storage contents (Excel, pages 1-13, displaying the expressions which are stored in different locations);
- means for processing the expressions (Excel, pages 1-39, copy, paste, linking expressions, compute, recomputed the expression, updating expression);
- means for storing, accessing and managing one or more files (Excel, pages 40-41, using "open", "save" or/and, "save as" to storing, accessing and managing one or more files); and the improvements comprising:
- means for revising the expressions in a well-developed editor (Excel, pages 16-23 and 38-39; revising the expression in a well-developed editor "Microsoft Excel");
- means for interactively and automatically updating the storage and displaying the re-computed results, for the mathematical expressions, post-revision (Excel, pages 16-23 and 38-39).

Excel (Microsoft Excel) is an spreadsheet application, which is installed in a desktop computer device for creating, editing graphic, text, mathematical expressions as well known in the art and is demonstrated in the rejection above. It would have been also obvious to a person of ordinary skill in the art at the time the invention was made to have included such application laptop computers, since this would have allow portable computers have functionalities of a desktop computer while laptop computer are more common and convenient for user.

Regarding claim 15, which is dependent on claim 14, Excel teaches means for interactively and automatically updating the result of an expression, affected by a revision to a different expression, the storage and displaying modifications to all expressions and their corresponding re-computer results (Excel, pages 16-23 and 38-19).

Regarding claim 16, which is dependent on claim 14, Excel teaches means for linking expressions via hyperlink, or straight-link, or paste-link, or label, or variable-name (Excel, pages 14-14, 26, and 36-37).

Regarding claim 17, which is dependent on claim 14, Excel teaches means for interactively and automatically updating the result of an expression, affected by a revision to a different expression, the storage and displaying modification to all expression and their corresponding re-computer results (Excel, page 5-9 and 19-23).

Independent claim 18 is for a device performing the combination of claims 1 and 14, and is rejected under the same rationale. Excel also teaches the step of:

- means for easily editing the expressions, including long text narrative, in a well-developed editor (Excel, pages, 1, 24-26 and 34-38, Excel allows the user to editing expressions, including long text narrative, such as "TESTING").

Independent claim 19 is for a device performing the combination of claims 1 and 18 and is rejected under the same rationale. Excel also teaches the step of:

- means for updating the storage content and displaying the new results, for the mathematical expression, and executing user-provided instruction in batch mode (Excel, pages 16-23 and 38-39; updating the storage content and displaying the new results, for mathematical expression until the user provides an "enter command").

Claims 20 and 24 are for a device performing the method of claim 1 or 6, Excel teaches wherein "the links are recorded into either an ordered link-sequence or into link-ring" and "locating various linked expression for examination" are addressed. The rationale is incorporated herein.

Regarding claim 21, which is dependent on claim 14, Excel teaches wherein expressions can be entered by receiving from another device (Excel, pages 1-4, expressions are enter by a keyboard device).

Regarding claim 23, which is dependent on claim 14, Excel teaches means for typing text in between mathematical and graphic expression (Excel, pages 24-26 and 34-38).

Regarding claim 25, which is dependent on claim 14, Excel teaches the steps of:

- means for parsing identifying errors and generating error messages, with or without suggestions, on the display means (Excel, pages 42-48, identifying errors and generating error messages);
- means for prompting the user for input to resolve the error (Excel, pages 42-48, indicating error position for user resolve the error); and
- means for automatically updating all expressions affected by the user-provided input, executing the user instructions, updating the storage, and displaying the modified expressions and the corresponding re-computed results for the mathematical expression (Excel, pages 42-44).

Regarding claim 26, which is dependent on claim 14, Excel teaches means for the user to supply a result of a mathematical expression whereby the processor compares it to the computed result and responds with a 'Correct'/ 'Incorrect' response instead of displaying the computed result (Excel, pages 49-54, using IF functions to display message responding to the user inputs of results of a mathematical expression).

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Excel as applied to claim 14 above and further in view of Willner, US 5,874,906, filed 09/1997.

Regarding claim 22, which is dependent on claim 14, Excel does not explicitly disclose wherein expressions can be entered via a full-sized QWERTY keypad for quick and easy typing.

Willner teaches data can be entered via a full-sized QWERTY keypad for increasing the typing speed (Willner, col.1, line 65 – col.2, line 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combine Miller and Excel to provide input devices that include a QWERTY keypad, since this keyboard would have helped the user enter data as Willner disclosed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zellweer et al., US 6,185,582, filed 06/1998, teaches Spreadsheet view enhancement system

Marathe, Sharah, US 2003/0056181, filed 03/17/2000, teaches method for displaying spreadsheet cell formula in two-dimensional mathematical notation.

Blish et al., US 6,177,939, filed 10/1998, teaches method of saving sections of a document random access memory.

Porter, Edward, US. 2002/0059272, filed 04/2000, teaches Apparatuses, methods, programming, and propagated signals for creating, editing, organizing and viewing collaborative databases.

Jenks, Richard, US 6,610,106, filed 08/1999, teaches expression editor.

Hoag, LaVerne, US 6,114,978, filed01/1998, teaches shortcut key combinations in a computer software application.

Yamada et al., US 5,504,848, filed 12/1993, teaches calculating function, capable of indicating necessity of recalculations to resolve mathematical expressions in changed data table.

Anderson et al., US 5,874,448, filed 12/1995, teaches dynamic linking system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu V Huynh whose telephone number is (571) 273-4126. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S Hong can be reached on (571) 273-4124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVH
September 24, 2004

STEPHEN S. HONG
PRIMARY EXAMINER